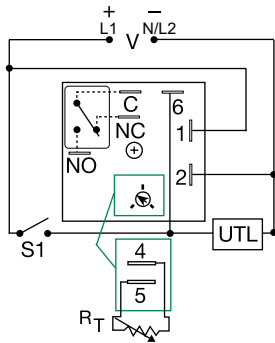


KRD9 SERIES



Wiring Diagram



V = Voltage
S1 = Initiate Switch C = Common,
Transfer Contact
UTL = Untimed Load (optional)

A knob is supplied for adjustable
units, or R_T terminals 4 & 5 for
external adjust. See external
adjustment vs time delay chart.
The untimed load is optional.
Relay contacts are isolated.

Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	FUNCTION TYPE
KRD9120B	12VDC	Onboard	0.1 - 10s	Energized
KRD92115MA	24VAC/DC	Fixed	15m	De-energized
KRD92115MB	24VAC/DC	Fixed	15m	Energized
KRD9220B	24VAC/DC	Onboard	0.1 - 10s	Energized
KRD93115MA	24VDC	Fixed	15m	De-energized
KRD9423B	120VAC	Onboard	0.1 - 10m	Energized

If you don't find the part you need, call us for a custom product 800-843-8848

Description

The KRD9 Series microcontroller timing circuit provides excellent repeat accuracy and stability. Cost effective approach for OEM applications that require small size, isolation, reliability, and long life.

Operation (Retriggerable Single Shot)

Function Type A (Output Initially De-energized): Input voltage must be applied prior to and during timing. When the initiate switch is closed, (momentary or maintained) the output energizes and the time delay starts. On completion of the delay, the output de-energizes. The unit will time out if S1 remains in the open or closed position for the full time delay. Reclosing the initiate switch resets the time delay and restarts timing; the output remains energized. The output will not energize if the initiate switch is closed when input voltage is applied.

Function Type B (Output Initially Energized): Upon application of input voltage, the output energizes and the time delay starts. At the end of the time delay, the load de-energizes. The unit will time out if S1 remains in the open or closed position for the full time delay. Closing (re-closing) the initiate switch resets the time delay and restarts timing; the output remains energized.

Reset: The time delay and the output are reset when input voltage is removed.

Features & Benefits

FEATURES	BENEFITS
Microcontroller based	Repeat Accuracy + / - 0.5%, Factory calibration + / - 5%
Compact, low cost design	Allows flexibility for OEM applications and reduces labor and component costs
Isolated, 10A, SPDT output contacts	Allows control of loads for AC or DC voltages
Encapsulated circuitry	Protects against shock, vibration, and humidity

Accessories



P1004-95, P1004-95-X Versa-Pot

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



P1023-6 Mounting bracket

The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



P0700-7 Versa-Knob

Designed for 0.25 in. (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.



P1015-13 (AWG 10/12), P1015-64 (AWG 14/16) Female Quick Connect

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

KRD9 SERIES

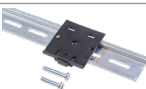
Accessories



P1015-18 Quick Connect to Screw Adapter
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

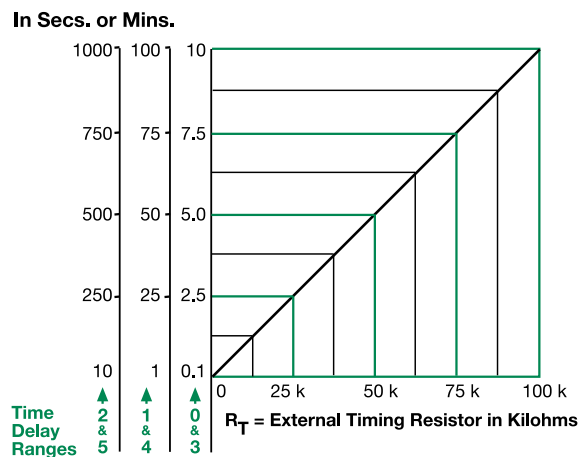


C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

External Resistance vs. Time Delay

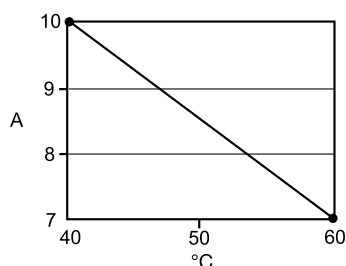


This chart applies to externally adjustable part numbers.
The time delay is adjustable over the time delay range selected by varying the resistance across the R_T terminals; as the resistance increases the time delay increases.

When selecting an external R_T , add the tolerances of the timer and the R_T for the full time range adjustment.

Examples: 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm R_T . For 1 to 100 S use a 100 K ohm R_T .

Output Current/Ambient Temperature



Specifications

Time Delay

Type

Range

Repeat Accuracy

Tolerance

(Factory Calibration)

Reset Time

Initiate Time

Time Delay vs Temp.

& Voltage

Input

Voltage

Tolerance

12VDC & 24VDC/AC

110VDC, 120 or 230VAC

AC Line Frequency/DC Ripple

Power Consumption

Output

Type

Form

Rating (at 40°C)

Max. Switching Voltage

Life (Operations)

Protection

Circuitry

Isolation Voltage

Insulation Resistance

Polarity

Mechanical

Mounting

Dimensions

Termination

Environmental

Operating/Storage

Temperature

Humidity

Weight

Microcontroller based with watchdog circuitry
0.1s - 1000m in 6 adjustable ranges or fixed
 $\pm 0.5\%$ or 20ms, whichever is greater

$\leq \pm 5\%$

$\leq 150\text{ms}$

$\leq 40\text{ms}$; ≤ 750 operations per minute

$\leq \pm 5\%$

12, 24 or 110VDC; 24, 120 or 230VAC

-15% - +20%

-20% - +10%

50/60 Hz / $\leq 10\%$

AC $\leq 2\text{VA}$; DC $\leq 2\text{W}$

Isolated relay contacts

SPDT

10A resistive @ 125VAC;

5A resistive @ 230VAC & 28VDC;

1/4 hp @ 125VAC

250VAC

Mechanical - 1×10^7 ; Electrical - 1×10^5

Encapsulated

$\geq 1500\text{V RMS}$ input to output

$\geq 100 \text{ M}\Omega$

DC units are reversed polarity protected

Surface mount with one #10 (M5 x 0.8) screw

H 50.8 mm (2.0"); **W** 50.8 mm (2.0");

D 30.7 mm (1.21")

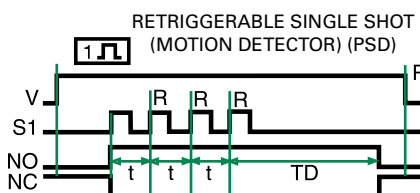
0.25 in. (6.35 mm) male quick connect terminals

-40° to 60°C / -40° to 85°C

95% relative, non-condensing

$\approx 2.6 \text{ oz}$ (74 g)

Function Diagram



V = Voltage

S1 = Initiate Switch

NO = Normally

Open Contact

NC = Normally

Closed Contact

t = Incomplete

Time Delay

TD = Time Delay

R = Reset